
Docket Number: NHTSA 2004-17243

Daytime Running Lights

I would like first to take this time to express appreciation for the opportunity to place on record the comments of this interested concerned citizen.

We all know far too well of the many documented “interrelated issues” surrounding the many varied types of implementations used for daytime running lights. It has all been before the NHTSA for far too many years. For those of us that have been trying in vain for much of that time to get the NHTSA to take notice and take responsible, responsive action, the recent opening of this docket is, hopefully, a positive sign to that end. Let us all hope that it won’t be another six years before it is acted upon and settled. Do we have any assurances of that?

I will not repeat my earlier submissions, but call as reference to NHTSA-1998-4124-695. Although related to vehicle lighting control systems in general, I also call as reference to the complaint submitted under ODI#:10032589 filed with the NHTSA in mid August of 2003. I believe general overall lighting control systems will inevitably become a topic of study relating to any future DRL standard and there are additional significant issues to be addressed there as well.

In reading through the document that the NHTSA filed with the Federal Register on March 19th, 2004, it appears that Mr. Kratzke (Associate Administrator for Rulemaking) has done a reasonable job at summarizing many of the high level “interrelated issues” that the NHTSA needs to address. It makes a great deal of sense to deal with all of the issues in a cohesive and comprehensive manner. I applaud that decision. I will add in those areas that don’t seem to have been included in that document (or in response to those that are) as part of this submission.

First, let me just say that we should have never found ourselves in the situation that we are dealing with today. There is absolutely no excuse whatsoever for DRLs of any type to have been approved by the NHTSA for use on US highways prior to this sort of comprehensive analysis having been completed first. What did we end up with as a result?

High beam DRLs (at reduced intensity). The reflective optics are designed for nighttime illumination of distant objects directly in front of the vehicle. Its narrow intense focused beam provides an intense glare “spot” immediately in front of the vehicle with very little light being sent to the sides. Good DRL? No, because they are too bright and glaring directly in front of the vehicle with far too small amount of light remaining to either side to be effective as DRLs at that side/wide angle. (they are practically invisible when viewed “off-axis” in the daytime, in other words).

Low beam DRLs. The reflective optics are designed to cast most of its light energy below horizontal and onto the street surface for night time illumination of the street. Good DRL? No, because most of the energy it consumes to produce light is focused on the street. The street doesn’t need light energy focused on it to be illuminated during the day. Wasteful, inefficient and contributes to unnecessary fuel consumption and added unnecessary pollution.

Turn Signal DRLs. Although the reflective optics are more suitable as DRLs and are more energy efficient, they were designed exclusively for signaling purposes. Good DRLs? No, because it introduces potentially safety-negative signaling ambiguity into the driving environment. With turn signal DRLs, what does a quick glance observing one illuminated turn signal lamp mean now? One used to know what it meant...no longer! Lamps burn out quickly, as well. If these haven’t been studied, why does the NHTSA allow them?

Why do we have these bad and incorrect implementations on our roads? It is because the NHTSA allowed it without proper study and standards. The reflective optical requirements of a properly designed DRL are far different from the reflective optical requirements of a headlamp. Seems obvious, doesn't it? The only proper DRL implementation is a separate properly designed unit with...

- ...the appropriate reflective optics to disperse the light at the proper angles to be seen and in a wide enough pattern seen from many angles without any "hot spots" of intense glare.
- ...a light source (filament, LED, vapor tube, etc.) used as efficiently as possible to reduce the overall power requirements necessary to do the job.

Second, forget Canada. The purpose of the NHTSA should NOT be setting rules that are uniform with Canada. For the purposes for which that can be achieved, fine, but should not in any way influence what the correct remedy is ultimately defined to be here in the USA. Should Canada disagree, we should proceed with our own. I took exception to the Canada reference in the NHTSA document and realize it was there to be friendly to GM's manufacturing and inventory costs (which is likely inconsistent to the charter of the NHTSA, I'd bet!). As a citizen, I say cut it out! You don't work for GM. Your credibility take a hit when you do that!

Third, make the decision mandatory. What ever the outcome, it is likely a safety benefit that we have some semblance of uniformity on the roadways. If the decision is for the DRL rule (properly redesigned!), then it should be DRLs for everyone. If it isn't then they should be banned and not allowed at all (penalties for use). No more of promoting this mixed bag of stuff PLEASE!

Fourth, address energy consumption and associated pollution. Please address the fuel and pollution question. I've seen published articles applied to the current DRL implementation which, if mandated, would consume an additional 600,000,000 gallons of gasoline a year in the USA along with the associated pollution, acid rain, etc. Is that acceptable? Can DRLs be made to be more efficient and still be effective? Within the standard, define the maximum acceptable level of energy use for these devices per vehicle. This can be easily accomplished within the optics design and the type of light source used. My bet is that a properly designed DRL would do a better job and at 10% of the energy requirements of the current DRL implementations on the road today. Influence the DOE/EPA to return to testing the fuel efficiency ratings of the cars with the DRLs turned on. Today they test with them turned off.

Fifth, address signaling ambiguity. Please address signaling ambiguity. 1. Determine if amber is truly a suitable color to be used as a DRL (traditionally interpreted by drivers as a signaling color protocol). If amber is allowed, mandate that if one DRL becomes inoperative that neither DRL will illuminate (all on or all off, in other words, but never one on and one off). 2. Determine if turn signal DRLs and the ambiguity they create are contributing to traffic issues. (Has this been studied? If not, *why are they allowed on the roads by the NHTSA now?!?!?*)

Sixth, set placement and location standards. When DRLs are placed closely together near the center of the vehicle, (e.g. some Saturn and Oldsmobile models) it creates the perception that the vehicle is much further away than it really is. When placed too high, they shine into rear-view mirrors when close behind (say at a stop light). It would seem that placing DRLs further to the "outboard" locations and below the trunk height of a typical sedan would be optimal.

Seventh, treat GM's contributions with a fair degree of skepticism. It should go without saying. If it's obvious to us in the general public what is going on, it should be very obvious to those at the NHTSA (one would hope). At minimum, confirm their information using other separate sources. If it can't be confirmed, don't use it.

Eighth, be truthful as to the trade-offs. This one is important. Just about everywhere we look we see summary generalizations at how beneficial DRLs are with some citing specific studies for their basis pointing to “cherry-picked” conclusions within those studies. However, when you read the complete study, they typically have some trouble spots in them that, for what ever reason, are either glossed over, explained as irrelevant or anomalies, or simply seemingly ignored altogether. Do we really know if blindly accepting some of these problems, trouble spots and “trade-offs” are worth the cure? Please, seek those ignored and forgotten pieces out from the studies and make sure that by potentially improving a situation in one place that we aren’t potentially creating even bigger issues elsewhere?

Ninth, where is the insurance loss data? My insurance company tells me that their loss data over many years has shown no benefit at all for DRLs. That’s right...NONE! Now, that could have been something that an office clerk just told me. However, strangely absent is that information (at least I can’t find it) at the NHTSA. I would think that insurance loss data would be darn good information to have in your analysis at to what is going on in the real world (the largest data sampling, albeit uncontrolled, you could ever hope for).

Tenth, general light control systems. I have no doubt that you will need to address the issue where people don’t turn their headlights on because DRLs make them think they are on. I have already submitted comments on this topic and referenced the document previously. Suffice to say that a lot of work is required in that area to make “auto” light control systems work as they should, if they can be made to.

Eleventh, just do the right thing this time. Please!

Submitted,
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